

HOW JUICE OF CANE IS WEIGHED

A Machine at Iron Works Which is Accurate.

DESCRIPTION OF VALUABLE PATENT

Invention of C. Hedemann Which Will be Important in the Sugar Business.

One of the most recent and valuable inventions in connection with sugar production not only in the Hawaiian Islands, but in all sugar-producing countries, is the new cane-juice weighing machine, being built by the Honolulu Iron Works, the patent for which was taken out on February 28, 1901, by C. Hedemann, manager of the iron works, and now held by the latter company. There are two machines already set up in the main shop of the works where they have recently been examined by sugar men. All who have taken the pains to make a careful study of the automatic features of the machine pronounce it one of the most important additions to the profitable production of sugar, in that it gives an accurate measurement of every drop of juice that goes into the machine.

The smaller machine which is now being constructed by the iron works has the appearance in miniature of the walking beam mechanism of a side-wheel steamer. The mechanical weighing features are so delicately adjusted that it takes but the weight of a drop of cane juice to tip the weighing pan over and allow the contents to run into a tank, when its holding capacity has been reached, at the same time shutting off the flow until the opposite side of the pan is presented for filling. By the same automatic process the flow is again started, each tilt being automatically registered. The machine now on exhibition consists of a pipe lying horizontally across the top of the weighing pan. This supplies the juice into the machine which is originally brought from a tank and deposited directly into the feed pipe. The juice will pass from the feed pipe through a slit on the under side into a copper spout. This spout discharges in turn into the so-called weighing box, made of copper, which is partitioned in the center, the ends being open.

The weigher is adjusted to tip one side or the other by the reception of a certain amount of juice. In the copper spout is a knife-shaped blade, which, by an arrangement can be turned to the right and left, thus diverting the juice into one partition of the weighing box or the opposite side as the case may be. When the juice commences to enter the feed pipe and is discharged through the nozzle into the copper spout, it will fill one side of the weighing box. When the quantity of juice collected in that partition has reached a certain weight the weighing box will turn down, being mounted on knife edges, and discharge the contents into the tank below, from which it is taken for further treatment into containers made for the purpose.

By turning the weighing box down, the other partition of the weigher is raised up and puts the partition in the center of the box in such a position that the copper spout will discharge into the new new side thus presented. As soon as the box commences to tilt over, the knife-shaped cut-off plate will make a quick move, thus shutting off the flow of the juice into the partition which was filling, and turning the flow over into the other end. The quick movement of this cut-off plate eliminates all inaccuracies in weighing. The arrangement of this cut-off is one of the essential features of the weighing machine, which have brought it so prominently to the attention of planters.

The weighing box is provided with pipes which contain a certain quantity of mercury for the purpose of keeping the weighing box in position when filling, for such a time, that it will always take the full weight of its capacity before tilting. To avoid a heavy jarring when the tilting occurs,

NEW YEAR RESOLUTIONS.



HE SHOULD SWEAR OFF NAPPING ON THE BENCH.



HUMPHREYS MAY RESOLVE TO HAVE MAGDOON APPOINTED SPENDTHRIFT GUARDIAN TO THE CIRCUIT COURTS.



WILCOX SHOULD RESOLVE NOT TO RESOLVE TO HAVE HAWAII A LEPER REFUGE.



AN OPPORTUNITY FOR MORE RESOLUTIONS

PAIN SHOULD RESOLVE TO CEASE COMPETITION WITH THE RAPID TRANSIT.

THE ESTIMATED SUGAR CROP OF HAWAII

FROM NOVEMBER 1, 1901, TO NOVEMBER 1, 1902

	1901 Nov.	1901 Dec.	1902 Jan.	1902 Feb.	1902 March	1902 April	1902 May	1902 June	1902 July	1902 Aug.	1902 Sept.	1902 Oct.	1902 Nov.
H. Hackfeld & Co.	1,200	6,500	10,550	11,250	11,450	10,950	9,600	5,900	4,500	1,100			75,000
T. H. Davies & Co.	1,390	2,010	4,250	4,950	5,450	6,450	5,100	3,900	2,500	1,500			13,000
M. F. Dillingham & Co.			3,000	3,000	3,000	3,000	3,000	3,000	2,000				20,000
M. S. Grinbaum & Co.	400	1,200	1,400	1,400	1,400	1,300	600	400	400				10,000
F. A. Schaefer & Co.			300	1,100	700	1,150	1,350	640	650				6,000
H. Waterhouse & Co.			675	925	400	475	650	225	100	50			3,500
Alexander & Baldwin	1,250	1,250	2,175	2,175	7,000	7,000	7,000	5,500	2,275				45,500
C. Brewer & Co.	1,600	900	2,900	4,900	5,200	4,900	3,200	4,200	3,300	1,000			35,000
Castle & Cooke, Ltd.	3,000	1,500	4,200	5,100	5,500	5,500	5,500	5,500	5,150	3,100	3,100	3,100	50,400
Grand Total	8,540	13,360	29,510	37,675	40,150	40,875	36,750	31,015	24,100	10,925	4,700	4,100	281,000

RAIL

	1901 Nov.	1901 Dec.	1902 Jan.	1902 Feb.	1902 March	1902 April	1902 May	1902 June	1902 July	1902 Aug.	1902 Sept.	1902 Oct.	1902 Nov.
H. Hackfeld & Co.	4,000	4,650	4,420	4,000	3,850	2,600	1,454	420					25,494
T. H. Davies & Co.	2,000	2,150	2,270	1,500	1,550	1,670	800	570					13,000
M. F. Dillingham & Co.	1,700	1,700	1,750	1,750	1,550	1,670	800	570					10,040
M. S. Grinbaum & Co.	500	720	450	690	455	382	115	150					3,422
F. A. Schaefer & Co.	130	410	370	470	230	230	10	20					2,065
H. Waterhouse & Co.	225	340	140	150	242	80	25	30					1,222
Alexander & Baldwin	1,250	1,250	1,270	1,950	1,472	1,828	1,350	870					18,800
C. Brewer & Co.	1,600	800	1,810	1,655	1,140	1,150	835	600					12,620
Castle & Cooke, Ltd.	3,150	1,850	745	1,490	1,520	1,440	668	1,150	1,500	1,500	1,500	1,500	18,000
Grand Total	6,000	4,000	11,000	14,000	14,000	13,000	13,000	11,000	6,000	4,000	2,000	2,000	100,000

HORN BY STEAM

	1901 Nov.	1901 Dec.	1902 Jan.	1902 Feb.	1902 March	1902 April	1902 May	1902 June	1902 July	1902 Aug.	1902 Sept.	1902 Oct.	1902 Nov.
H. Hackfeld & Co., Honolulu	3,200	3,100	3,700	1,200	1,200	2,440	3,832	3,313					21,965
T. H. Davies & Co.	700	600	900	800	800	1,000	1,200	365					6,365
Alexander & Baldwin	300	400	600	400	400	600	400	490					3,380
F. A. Schaefer & Co.	200	200	400	250	250	200	200	108					2,058
M. S. Grinbaum & Co.	500	500	500	500	249	400	400	382					3,431
H. Waterhouse & Co.	800	800	250	500	101								1,301
Grand Total	5,200	5,400	6,200	3,400	3,900	4,340	6,340	4,540					38,420
T. H. Davies & Co., Hilo													
M. F. Dillingham & Co.													
Grand Total	5,200	5,400	6,200	3,400	3,900	4,340	6,340	4,540					38,420

REFINERY

	1901 Nov.	1901 Dec.	1902 Jan.	1902 Feb.	1902 March	1902 April	1902 May	1902 June	1902 July	1902 Aug.	1902 Sept.	1902 Oct.	1902 Nov.
H. Hackfeld & Co.	1,200	6,500	2,450	3,450	2,330	4,150	1,371						22,401
T. H. Davies & Co.	1,390	2,010	1,550	200	2,330	3,380	679						11,339
M. S. Grinbaum & Co.	400	1,200	30	290	175	530	630	191					1,846
F. A. Schaefer & Co.			150	400	10	75	167	145	105				3,077
H. Waterhouse & Co.			150	285	10	75	167	145	105				1,077
Grand Total	2,990	9,710	4,580	4,415	6,255	8,455	3,154	336	105				40,000
Alexander & Baldwin													
C. Brewer & Co.													
Castle & Cooke, Ltd.													
Grand Total	2,990	9,710	4,580	4,415	6,255	8,455	3,154	336	105				40,000

HORN BY SAIL

	1901 Nov.	1901 Dec.	1902 Jan.	1902 Feb.	1902 March	1902 April	1902 May	1902 June	1902 July	1902 Aug.	1902 Sept.	1902 Oct.	1902 Nov.
C. Brewer & Co.	1,000	1,700											4,500
Castle & Cooke	575												14,200
Grand Total	1,575	1,700											18,700

Grand Total 516,000

SEND FOR FREE
ILLUSTRATED CATALOGUE OF
LADIES' CHILDREN'S AND INFANTS' WEAR
GOODS OF QUALITY
REASONABLE PRICES
I. MAGNIN & CO.
218-222 MARKET ST.
SAN FRANCISCO, CAL.

The machine is provided with air-cushions which insure an easy and noiseless movement.

Every machine is provided with an automatic register which counts the number of strokes made by the tilting of the weighing box, thus giving, with the greatest accuracy, the number of partition discharges and the quantity of juice which passes through the machine. The machines are being built in several sizes. The smaller ones have a capacity of from 2000 to 5000 gallons per hour, and the larger ones about 12,000 gallons per hour.

The weighing machine is placed within a tank from which the juice is

again discharged through a nozzle in the bottom into containers. At the same time the juice samples itself. Every time the weighing box falls to one side or the other, a drop falls into a

spout which leads to an opening in one end of the tank, through a stop cock the chemist to commence his analytical work at that stage.

Opposite the axle and journals of the machine is an opening in the tank provided with a glass covering through which the person attending the machine can observe just how the machinery is working. A trap door also enables the workman to put his arms

within the tank to perform any work necessary.

The iron works has made a small machine for Ewa plantation; two large ones and a small machine for the Colonial Refining and Sugar Company of Sydney, New South Wales, which were recently shipped; one large machine and two small ones for the Hawaiian Commercial and Sugar Company, at Spreckelsville, Maui and a big machine will be shipped to the Wailua plantation, Oahu.

The postage to the States or Canada on the New Year's edition of the Advertiser is 4 cents.

Young Peoples' Society Meeting.

The regular business meeting of the Young Peoples' Society of Christian Endeavor will be held in the parlor of the Central Union Church this evening at 7:30 o'clock. All members of the society are requested to be present to hear the reports from the chairmen of the various committees on the work which has been done during the past six months.

He popped. Her answer you may guess. 'Tis spelled with letters three. Of 'No' She did not answer 'Yes,' But simply 'N-I-T.'

PROFESSIONAL CARDS.

REAL ESTATE AND INVESTMENTS
GEO. B. McLELLAN & CO.—503-504 Stangenwald Bldg. Tel. Main 69.

ATTORNEYS.

LYLE A. DICKEY.—King and Bethel Sts.; Tel. Main 312.

C. R. HEMENWAY.—Office, 406 Judd building; Telephone 314 Main.

I. M. LONG.—Offices 32 & 33, Campbell bldg., cor. Fort & Mer. Sts.; Tel. M. 278.

FRED W. MILVERTON.—Rooms 301-304 Stangenwald block; Tel. Main 335.

PETERSON & MATTHEWMAN.—P. O. box 365; 15 Kaahumanu St.

PHYSICIANS.

DR. JENNIE L. HILDEBRAND.—Office, 248 Beretania ave.; telephone Blue 821.

DR. T. MITAMURA.—Office, 1468 Nuuanu St.; Tel. White 152; office hours, 8 to 10 a. m. and 6 to 8 p. m., except Sundays.

W. G. ROGERS, M.D.—Eye, Ear, Nose and Throat; 1146 Alakea St., opposite Hawaiian Hotel; special treatment for deafness.

DR. A. N. SINCLAIR.—Boston Bldg.; hours, 11 to 1 p. m. to 8; Sundays, 12 to 2; Tel. off. Main 335; res. W. 284.

DR. J. UCHIDA.—Physician and Surgeon; office, Beretania, between Fort and Nuuanu streets; office hours, 8 to 12 a. m., 7 to 8 p. m.; Tel. 1211 White.

DENTISTS.

DR. H. BICKNELL.—McIntyre bldg., rooms 2 and 14; office hours, 9 to 4.

DR. DERBY.—Mott-Smith bldg., cor. Fort and Hotel Sts.; office hours, 9 to 4.

M. E. GROSSMAN, D.D.S.—Alakea St., three doors above Masonic Temple, Honolulu; office hours, 9 a. m. to 4 p. m.

DR. GEO. H. HUDDY.—McIntyre bldg., rooms 1 and 2; 9 a. m. to 4 p. m.

DR. R. I. MOORE.—Dentist; room 405, Parrott building, San Francisco.

DR. A. C. WALL, DR. O. E. WALL.—Office hours, 8 a. m. to 4 p. m.; Love bldg.; Fort St.; Tel. 434.

J. M. WHITNEY, M.D., D.D.S.—Boston Bldg., Fort St., above May & Co's; hours, 9 to 5; Tel. Main 277.

ENGINEERS.

ARTHUR C. ALEXANDER.—Surveyor and Engineer, 409 Judd Bldg., P. O. box 732.

CATTON, NEILL & CO., LTD.—Engineers, Electricians and Boilermakers, Honolulu.

RISON IRON WORKS.—Engineers and builders of Pumping and Sugar Machinery and power plants; office, room 12, Spreckels bldg.; Tel. 194.

E. TAPPAN TANATT.—Civil and Electrical Engineer; P. O. box 92; office, room 3, Spreckels block; Tel. 791 Blue; residence, 3441 Blue.

JAMES T. TAYLOR, M. Am. Soc. C. E.—Consulting Hydraulic Engineer; 309 Judd Bldg., Honolulu; P. O. box 793.

CONTRACTORS.

WM. T. PATY.—Contractor and Builder, stone and office fitting; brick, wood, or stone building; shop, Hotel St., near barracks; res. 1641 Anapuni.

STENOGRAPHERS.

J. D. AVERY.—Public Stenographer, room 2, 154 Hotel St., over Hart & Co.; Tel. Main 76; House, Blue 261.

TYPEWRITING.

MISS ELLA K. DAYTON.—Public Typewriter; office with David Dayton, 127 Merchant St.

MUSICIANS.

COOK'S MUSIC SCHOOL.—Love bldg., Fort St. Its methods are the result of 30 years' experience in teaching.

VOCAL INSTRUCTION.

ANNIS MONTAGUE TURNER.—"Mignon," 1024 Beretania St.

INSURANCE.

THE MUTUAL LIFE INSURANCE CO. OF NEW YORK.
Assets Dec. 31, 1900, \$325,753,152.51.
S. B. ROSE, Agent, Honolulu.

ARCHITECTS.

BEARDSLEE & PAGE, Architects and Builders.—Office, rooms 2-4, Arlington Annex, Honolulu, H. I.; sketches and correct estimates furnished at short notice; Tel. 229; P. O. box 773.

ENGRAVERS.

W. BEAKBANE.—Card Engraving and Stamping; room 3, Elite Building.

BROKER.

E. J. WALKER.—Coffee